U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION II
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MEMORANDUM

TO: Steve Cipot - Project Manager
ERRD/NJRB

FROM: Andy Crossland - Geologist
ERRD/PSB/TST

DATE: Tuesday, April 16, 2002

SUBJECT: Review of the *Nature and Extent of Lead in Soils and Groundwater,* L.E. Carpenter, Wharton, New Jersey.

In response to your request, I have reviewed the documents listed above. If you have any questions concerning these comments, please feel free to call me at x4436.

NATURE AND EXTENT OF LEAD IN SOILS AND GROUNDWATER

General Comments:

In general, it appears that the extent and nature of lead at the site has now been adequately determined. EPA concurs that the lead contamination appears to be site related and the issue of mining wastes can be put to rest.

The report proposes to proceed with excavation, with some soils disposed of off-site and others replaced on-site. Excavation does seem appropriate, especially in junction with addressing the free product issue, it is not clear that replacing lead contaminated soils is the best remedy for the site. A comparison between off-site disposal and on-site capping needs to be conducted. This should include cost estimates for disposal, as well as capping and long term maintenance of the site. Note that if lead contaminated soils are left in place and capped, this will also require long term monitoring for lead in groundwater to ensure that the remedy remains protective. The preference for off-site disposal, as detailed in the ROD, must be shown to be outweighed by other factors in order to justify changing the selected remedy.

Remember any Revised Mini FS - comments

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In addition, it should be made clear that all soils, including those which are currently suggested for off-site disposal need to be screened and removed based on sampling. With the process waste, it will not be sufficient to remove soils based on color.

Specific comments:

1. Results indicate that the process waste tested as hazardous for cadmium as well as lead. As this is a new source with which additional metals are associated, the material needs to be sampled for a full metals suite. Impacts to groundwater for cadmium and any other metals identified need to be considered. Post excavation sampling should include all other metals present at levels of concern. If historical groundwater results are available for cadmium (and any other metals identified), they should be reviewed and re-presented in the context of the new information. If adequate groundwater samples do not exist, they will need to be collected.

2. TCLP results need to be summarized in a table which shows the criteria against which the data are screened. A quick review of the results in the appendix shows that other contaminants were also detected and this data needs to be evaluated and discussed.

3. SPLP tests include results for copper. These results and those for any other metals run during SLPL testing, should also be tabulated. In the area where copper was detected, samples for a full suite of metals should also be collected and analyzed. A clean up goal for copper should be established for the relevant area and analyses should be included in post excavation sampling.

4. Similarly, field parameters collected during the groundwater sampling should be compiled and presented in a table.

5. Well WP-A2 was noted to be broken. A description of what is wrong with the well should be included and the well should either be rehabilitated or abandoned.

6. Sample SS-47 was found to contain 25,056 mg/kg of copper. Some description of how and where this analysis was made needs to be included. If other parameters were run as part of this analysis, that data should also be included. Note again that the area around this point appears to have been only visually delineated. Remedial action and post excavation sampling must target a specific concentration.

7. Sample WDA-PES-6 appears to be a post excavation sample, indicating that lead contamination remains in this location. It should be included in the remedial effort.

8. In discussing the lead isotope work, please expand the discussion of the 208/204 isotopic ratios. The text should present the values, as well as provide references and explanations of why the differences in the values are significant.

FREE PRODUCT REMEDIATION STRATEGY

1. The report indicates that the stumbling block for LTTD is that an air permit can not be obtained (figure 1). It is unclear why ths is the case. While off-site disposal is a potentially viable option, it is not clear from the text why it should be the preferred one. This type of evaluation is usually the subject of a Feasibility Study. It is very hard to evaluate alternative approaches based on unsupported statements. This also holds for text in the report which refer to costs and difficulty of alternatives without any indication as to what the costs would be.

2. In discussing soil handling, the document suggests that excavated materials greater than 3 inches in diameter could be replaced on site with out washing. This is not clearly the case. If cobbles and boulders are coated with contaminants, it seems likely that they would need to be cleaned prior to replacing them. Handing the wash water would certainly complicate the effort, but should nonetheless be evaluated.

3. The proposed approach for the site needs to be more clear as to what criteria will guide the limits of excavation. Firm, clear guidelines as to when it is appropriate to stop digging need to be established. The limits shown on Figures 9 and 10 may differ from what is encountered in the field - and are based on a qualitative "probability" of contaminants being present. This is not sufficient to guide an actual excavation.

4. The excavation of Category D soils appears to include the draining of product back into soils which have yet to be excavated. If the volume of draining product is high, booms may not be very effective at containing the flowing material. Methods of collecting the drained product need to be evaluated and discussed more fully.